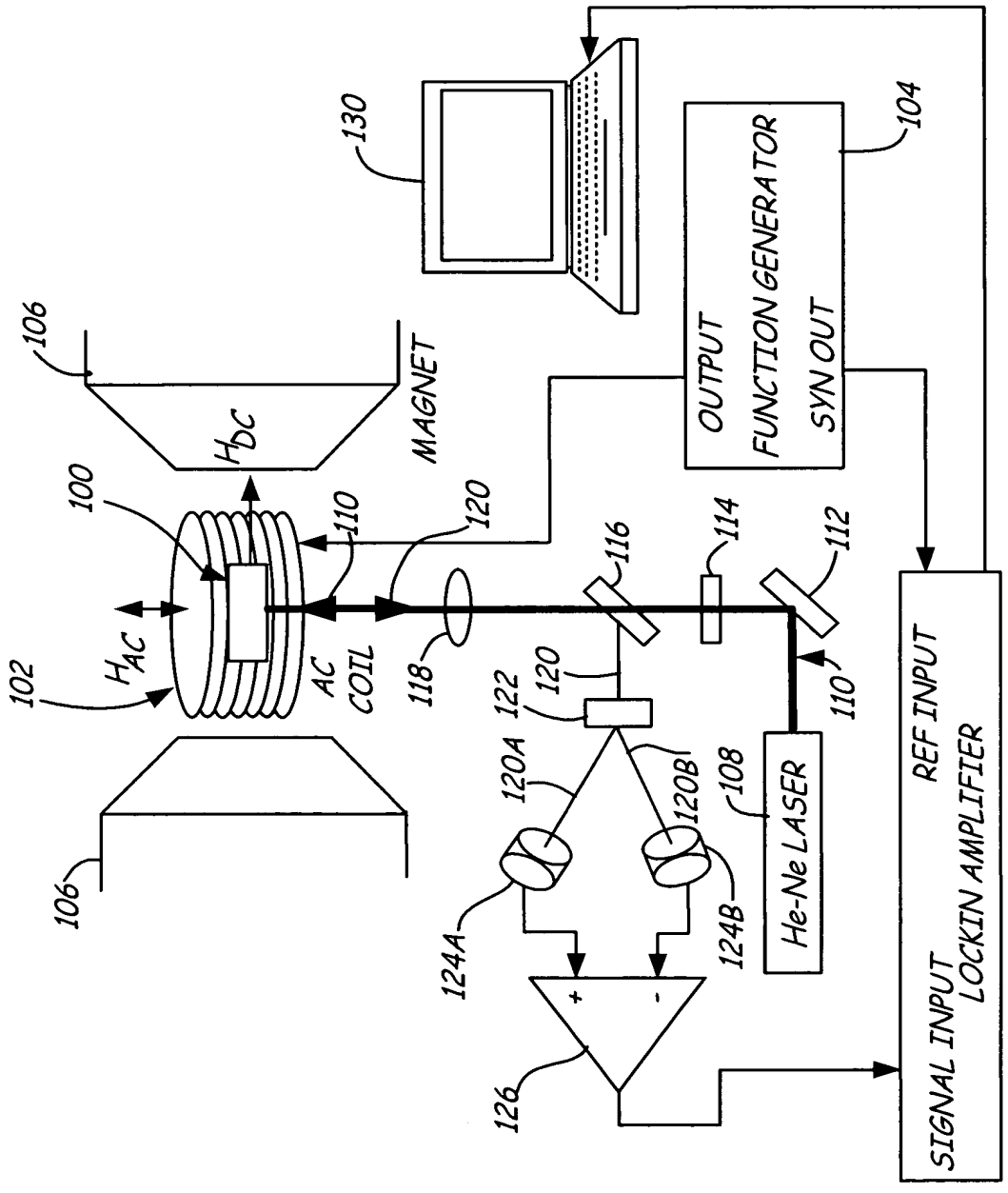
130
104
OUTPUT
FUNCTION GENERATOR
SYN OUT
106
MAGNET
H_{DC}
100
110
120
116
114
112
102
H_{AC}
AC
COIL
118
122
120
110
120A
120B
108
106
124A
124B
He-Ne LASER
+
-
126
REF INPUT
SIGNAL INPUT
LOCKIN AMPLIFIER

Fig. 1A

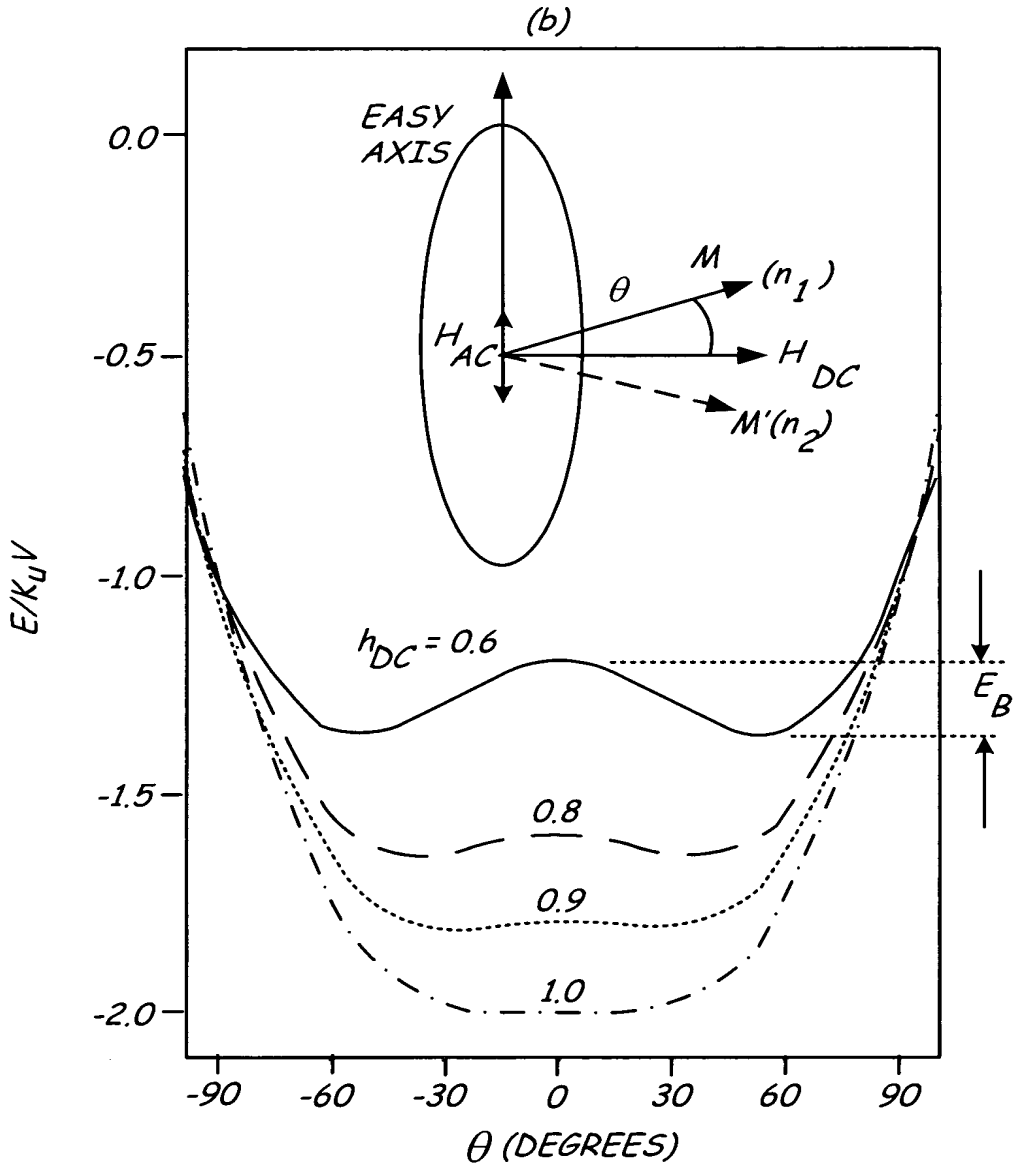
(b)
EASY AXIS
M
(n_1)
θ
H_{AC}
H_{DC}
$M'(n_2)$
$h_{DC} = 0.6$
0.8
0.9
1.0
E_B
0.0
-0.5
-1.0
-1.5
-2.0
E/K_uV
-90
-60
-30
0
30
60
90
θ (DEGREES)

Fig. 1B

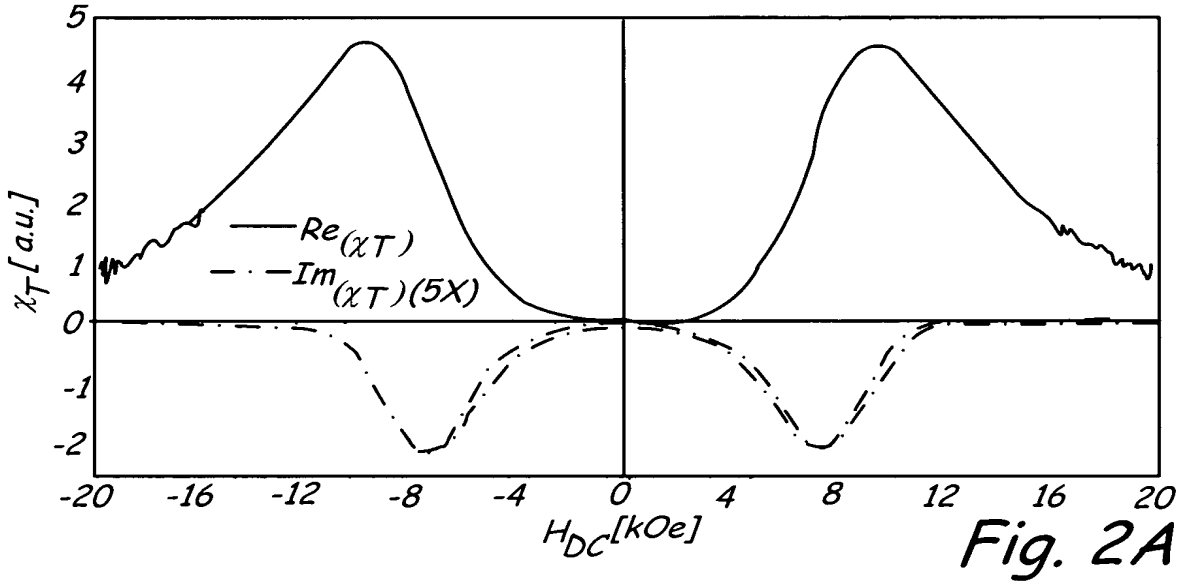
5
4
3
2
1
0
-1
-2
χ_T[a.u.]
$Re_{(\chi T)}$
$Im_{(\chi T)(5X)}$
-20
-16
-12
-8
-4
0
4
8
12
16
20
H_{DC}[kOe]

Fig. 2A

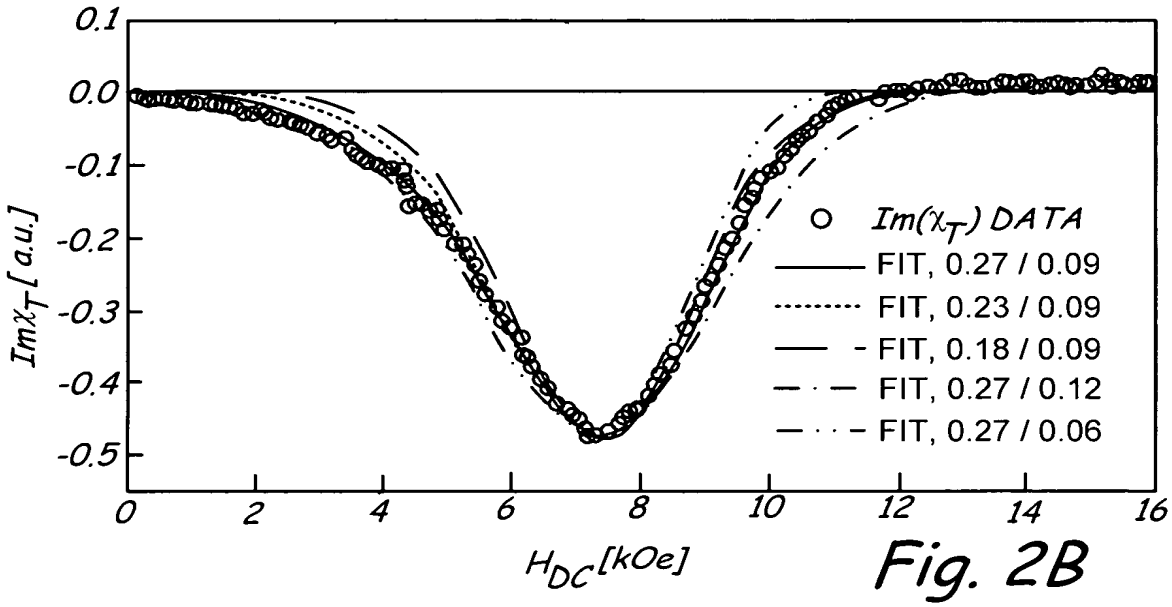
0.1
0.0
-0.1
-0.2
-0.3
-0.4
-0.5
$Im\chi_T$[a.u.]
$Im(\chi_T)$ DATA
FIT, 0.27 / 0.09
FIT, 0.23 / 0.09
FIT, 0.18 / 0.09
FIT, 0.27 / 0.12
FIT, 0.27 / 0.06
0
2
4
6
8
10
12
14
16
H_{DC}[kOe]

Fig. 2B

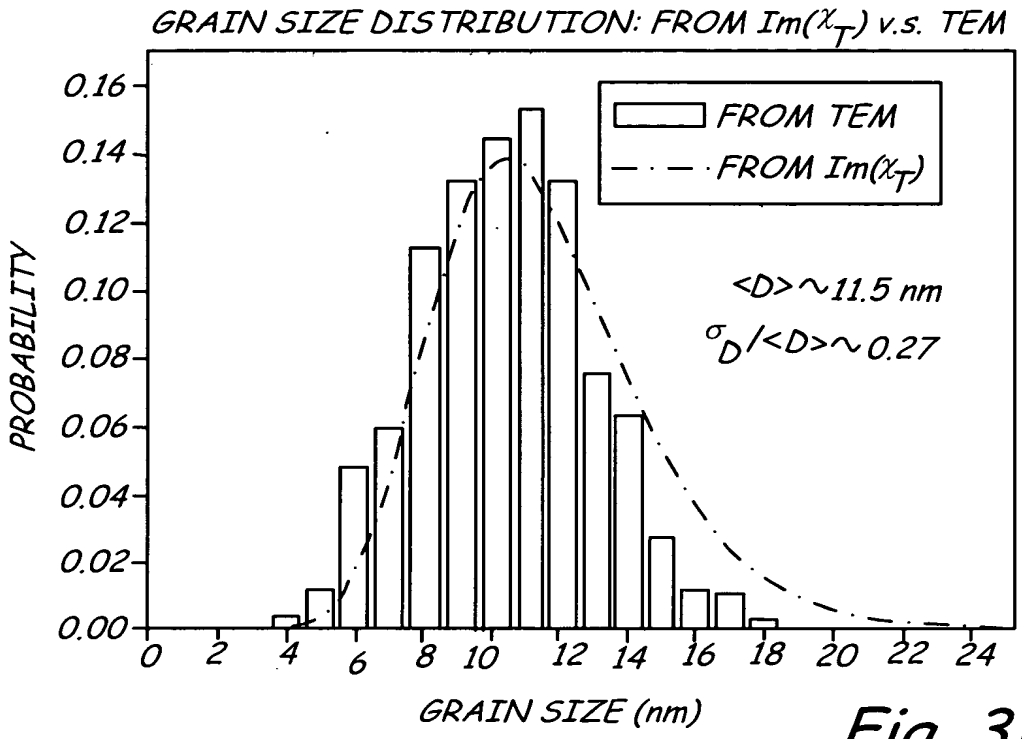
GRAIN SIZE DISTRIBUTION: FROM Im(χ_T) v.s. TEM
FROM TEM
FROM Im(χ_T)
<D>~11.5 nm
σ_D/<D>~0.27
PROBABILITY
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0 2 4 6 8 10 12 14 16 18 20 22 24
GRAIN SIZE (nm)

Fig. 3A

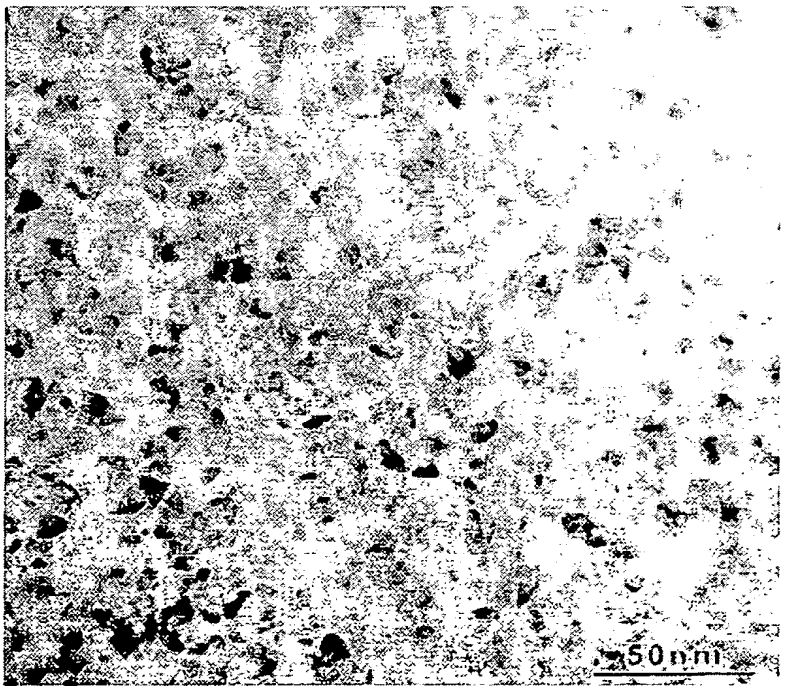
50nm

Fig. 3B

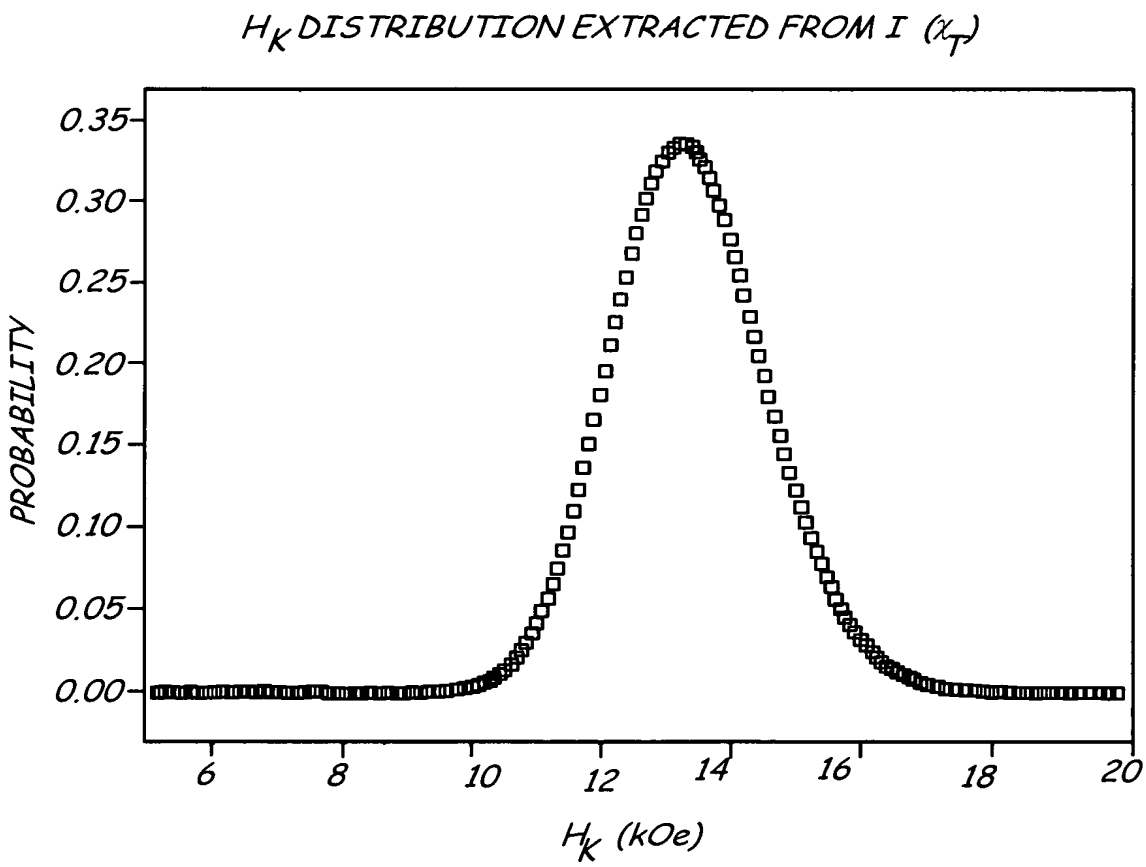
H_K DISTRIBUTION EXTRACTED FROM I (χ_T)
PROBABILITY
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
6
8
10
12
14
16
18
20
H_K (kOe)

Fig. 4

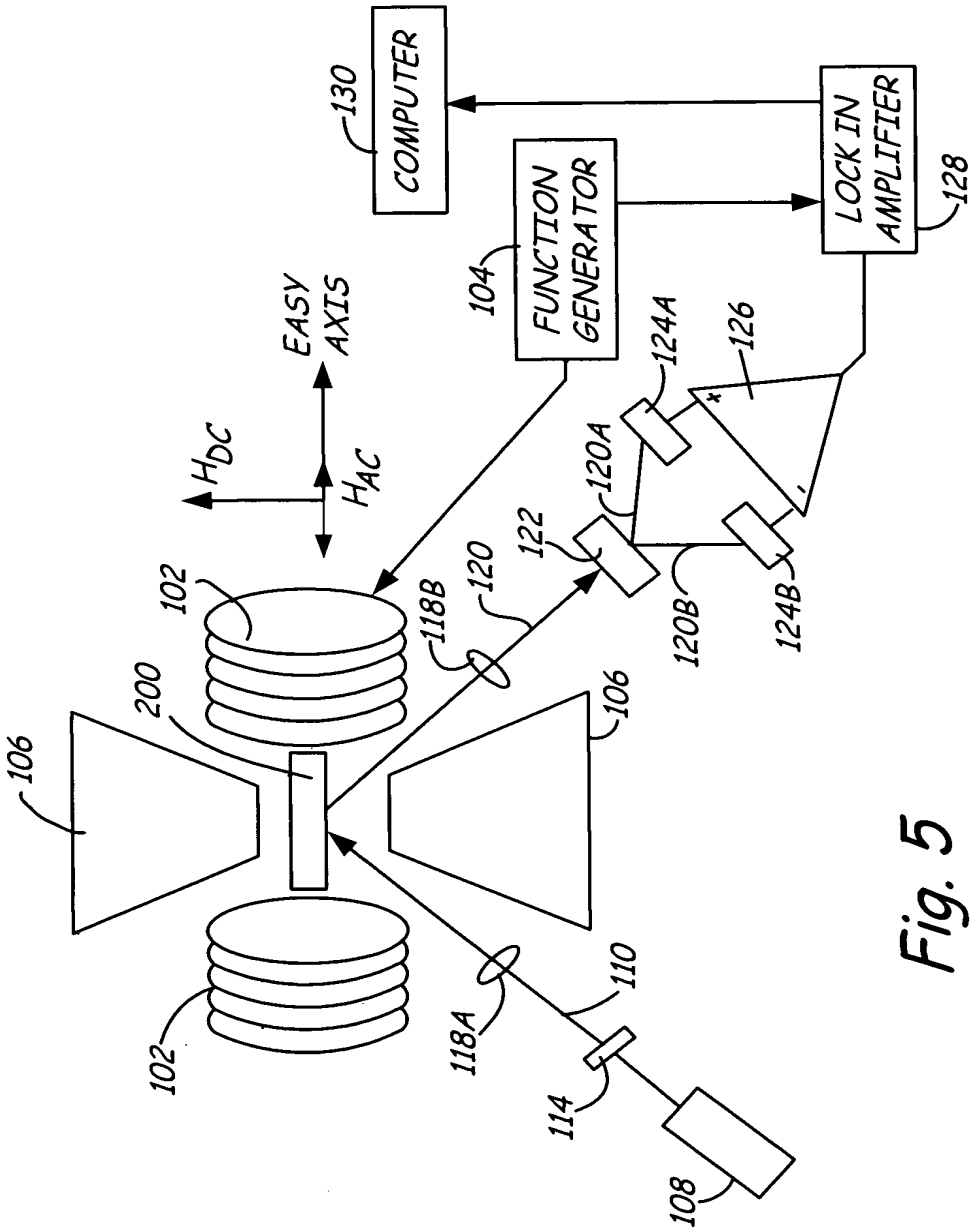
COMPUTER
130
FUNCTION GENERATOR
104
LOCK IN AMPLIFIER
128
EASY AXIS
H_{DC}
H_{AC}
124A
126
120A
122
120
118B
102
200
106
120B
124B
118A
110
114
108

Fig. 5